

Electromagnetic (EM) Surveys

Electromagnetic induction (EM), as the name implies, uses the principle of induction to measure the electrical conductivity of the subsurface. A primary alternating electric current of known frequency and magnitude is passed through a sending coil creating a primary magnetic field in the space surrounding the coil, including underground. The eddy currents generated in the ground in turn induce a secondary current in underground conductors which results in a alternating secondary magnetic field, that is sensed by the receiving coil. The secondary field is distinguished from the primary field by a phase lag. The ratio of the magnitudes of the primary and secondary currents is proportional to the terrain conductivity. The depth of penetration is governed by the coil separation and orientation.

Applications Include
<i>Locating buried metal objects (drums,UST's, utilities, etc.)</i>
<i>Delineating contamination plumes</i>
<i>Defining lateral changes in lithology</i>
<i>Locating water producing fractures</i>
<i>Investigating landfills</i>
<i>Detecting UXO</i>
<i>Gathering of forensic evidence</i>